



Sequence Listing

SEQUENCE LISTING

<110> Lee, Hyune Hwan
Chang, Yun-Hee
Kweon, Chang-Hee

<120> A Human LACTOFERRIN Produced by Using an Insect Cell and Method
Using The Same

<130> LACTOFERRIN

<140> US 10/048,193

<141> 2002-01-25

<150> KR 10-1999-30517

<151> 1999-07-27

<160> 2

<170> PatentIn version 3.2

<210> 1

<211> 2136

<212> DNA

<213> human lactoferrin

<220>

<221> gene

<222> (1)..(2136)

<400> 1

```
atgaaacttg tcttctctgt cctgctgttc ctgggggccc tcggactgtg tctggctggc   60
cgtaggagaa ggagtgttca gtggtgcacc gtatcccaac ccgaggccac aaaatgcttc   120
caatggcaaa ggaatatgag aagagtgcgt ggccctcctg tcagctgcat aaagagagac   180
tccccatcc agtgtatcca ggccattgcg gaaaacaggg ccgatgctgt gacccttgat   240
ggtggtttca tatacgaggc aggcctggcc cctacaaac tgcgacctgt agcggcggaa   300
gtctacggga ccgaaagaca gccacgaact cactattatg ccgtggctgt ggtgaagaag   360
ggcggcagct ttcagtgaa cgaactgaa ggtctgaagt cctgccacac aggccttcgc   420
aggaccgctg gatggaatgt ccctataggg acacttcgtc cattctttaa ttggacgggt   480
ccacctgagc ccattgaggc agctgtggcc aggttcttct cagccagctg tgttcccggt   540
gcagataaag gacagttccc caacctgtgt cgctgtgtg cggggacagg ggaaaacaaa   600
tgtgccttct cctcccagga accgtacttc agctactctg gtgccttcaa gtgtctgaga   660
gacggggctg gagacgtggc ttttatcaga gagagcacag tgtttgagga cctgtcagac   720
gaggctgaaa gggacagtag tgagtactc tgcccagaca acactcggaa gccagtggac   780
aagttcaaag actgccaatc ggcccgggtc ctttctcatg ccgttgtggc acgaagtgtg   840
aatggcaagg aggatgccat ctggaatctt ctccgccagg cacaggaaaa gtttgaaag   900
```

Sequence Listing

gacaagtcac cgaaattcca gctctttggc tcccctagtg ggcagaaaga tctgctgttc 960
aaggactctg ccattgggtt ttcgagggtg cccccgagga tagattctgg gctgtacctt 1020
ggctccggct acttcactgc catccagaac ttgaggaaaa gtgaggagga agtggctgcc 1080
cggcgtgcgc gggctcgtgtg gtgtgcggtg ggcgagcagg agctgcgcaa gtgtaaccag 1140
tggagtggct tgagcgaagg cagcgtgacc tgctcctcgg cctccaccac agaggactgc 1200
atgccctgg tgctgaaagg agaagctgat gccatgagtt tggatggagg atatgtgtac 1260
actgcaggca aatgtggtt ggtgcctgtc ctggcagaga actacaaatc ccaacaaagc 1320
agtgacctg atcctaactg tgtggataga cctgtggaag gatatcttc tgtggcgggtg 1380
gttaggatg cagacactag ccttacctgg aactctgtga aaggcaagaa gtctgccac 1440
accgccgtgg acaggactgc aggttggaat atccccatgg gcctgctctt caaccagacg 1500
ggctcctgca aatttgatga atatttcagt caaagctgtg cccctgggtc tgacccgaga 1560
tctaattct gtgctctgtg tattggcgac gagcagggtg agaataagt cgtgcccaac 1620
agcaatgaga gatactacgg ctacactggg gcttccggt gcctggctga gaatgctgga 1680
gacgttgc at ttgtgaaaga tgcactgtc ttgcagaaca ctgatggaaa taacaatgac 1740
gcatgggcta aggatctgaa gctggcagac ttgcgctgc tgtgcctcga tggcaaacgg 1800
aagcctgtga ctgaggctag aagctgccat ctgccatgg ccccgaaatca tgccgtggtg 1860
tctcggatgg ataagggtga acgcctgaaa cagggtgttc tccaccaaca ggctaaattt 1920
gggagaaatg gatctgactg cccggacaag tttgcttat tccagtctga aacaaaaaac 1980
cttctgttca atgacaacac tgagtgtctg gccagactcc atggcaaaac aacatatgaa 2040
aaatatattg gaccacagta tgtcgcaggc attactaatc tgaaaaagt ctcaacctcc 2100
ccctcctgg aagcctgtga attcctcagg aagtaa 2136

<210> 2
<211> 5538
<212> DNA
<213> Baculovirus transfer vector pBacPAK8

<220>
<221> gene
<222> (1)..(5538)

<400> 2
aacggctccg ccactatta atgaaattaa aaattccaat tttaaaaaac gcagcaagag 60
aacatttgt atgaaagaat gcgtagaagg aaagaaaaat gtcgtcgaca tgctgaacaa 120
caagattaat atgcctccgt gtataaaaaa aatattgaac gatttgaaag aaaacaatgt 180
accgcgcggc ggtatgtaca ggaagaggtt tatactaaac tttacattg caaacgtggt 240

Sequence Listing

ttcgtgtgcc aagtgtgaaa accgatgtti aatcaaggct ctgacgcatt tctacaacca 300
 cgactccaag tgtgtgggtg aagtcatgca tctttaatc aaatccaag atgtgtataa 360
 accaccaaac tgccaaaaaa tgaaaactgt cgacaagctc tgtccgtttg ctggcaactg 420
 caagggtctc aatcctattt gtaattattg aataataaaa caattataaa tgctaaattt 480
 gttttttatt aacgatacaa accaaacgca acaagaacat ttgtagtatt atctataatt 540
 gaaaacgcgt agttataatc gctgaggtaa tatttaaaat cattttcaaa tgattcacag 600
 ttaatttgcg acaatataat ttatttttca cataaactag acgccttgtc gtcttcttct 660
 tcgtattcct tctcttttcc atttttctcc tcataaaaat taacatagtt attatcgat 720
 ccataatagt atctatcgta tagagtaaat ttttgttgt cataaatata tatgtctttt 780
 ttaatgggtg gtatagtacc gctgcgcata gttttctgt aatttacaac agtgctattt 840
 tctggtagtt ctccggagtg tgttgcttta attattaaat ttatataatc aatgaatttg 900
 ggatcgtcgg tttgtacaa tatgttgccg gcatagtacg cagcttcttc tagttcaatt 960
 acaccatttt ttagcagcac cggattaaca taactttcca aaatgttgta cgaaccgtta 1020
 aacaaaaaca gttcacctcc cttttctata ctattgtctg cgagcagttg tttgttgta 1080
 aaaataacag ccattgtaat gagacgcaca aactaatatc acaaactgga aatgtctatc 1140
 aatatatagt tgctgatatc atggagataa ttaaaatgat aaccatctcg caaataaata 1200
 agtattttac tgttttcgta acagttttgt aataaaaaaa cctataaata cggatccctg 1260
 caggcctcga gttcgaatct agaagatctg gtaccgagct cgaattcccg ggcggccgct 1320
 taattaattg atccgggtta ttagtacatt tattaagcgc tagattctgt gcgttggtga 1380
 ttacagaca attgtgttac gtattttaat aattcattaa atttataatc ttaggggtgg 1440
 tatgttagag cgaaaaatca atgattttca gcgtctttat atctgaattt aaatattaaa 1500
 tcctcaatag atttgtaaaa taggtttcga ttagtttcaa acaagggttg ttttccgaa 1560
 ccgatggctg gactatctaa tggattttcg ctcaacgcca caaaactgc caaatcttgt 1620
 agcagcaatc tagctttgct gatattcgtt tgtgttttgt tttgtaataa aggttcgacg 1680
 tcgttcaaaa tattatgcgc tttgtattt ctttcatcac tgctgtagt gtacaattga 1740
 ctcgacgtaa acacgttaaa taaagcttgg acatatttaa catcgggcgt gttagcttta 1800
 ttagccgat tatcgtcgtc gtcccaacce tcgtcgtag aagttgcttc cgaagacgat 1860
 tttgccatag ccacacgacg cctattaatt gtgtcggtta acacgtccgc gatcaaattt 1920
 gtagttgagc ttttggat tttttctgat tgcgggcgtt tttgggcggg ttcaatcta 1980
 actgtgcccc attttaattc agacaacacg ttagaaagcg atggtgcagg cggtggtaac 2040
 atttcagacg gcaaatctac taatggcggc ggtggtggag ctgatgataa atctaccatc 2100

Sequence Listing

ggtggaggcg caggcggggc tggcggcgga ggcggaggcg gagtggtgg cggatgatga 2160
 gacggcgggt taggctcaaa tgtctcttta ggcaacacag tcggcacctc aactattgta 2220
 ctggtttcgg gcgccgtttt tggtttgacc ggtctgagac gattgagatt ttttcgtt 2280
 ctaatagctt ccaacaattg ttgtctgtcg tctaaagtg cagcgggtg aggttccgtc 2340
 ggcattggtg gagcggggcg caattcagac atcgatggg gtggtggtg tggaggcgt 2400
 ggaatgtag gcacgggaga aggtggtggc ggcgggtccg ccggtataat ttgtctggt 2460
 ttagttgtt cgcgcacgat tgtgggcacc ggcgcaggcg ccgctggctg cacaacggaa 2520
 ggtcgtctgc ttcgaggcag cgcttgggtt ggtggcaatt caatattata attggaatac 2580
 aaatcgtaaa aatctgctat aagcattgta attcgtctat cgtttaccgt gccgatatt 2640
 aacaaccgt caatgtaagc aattgtattg taaagagatt gtctcaagct cggatcgatc 2700
 ccgcacgccg ataacaagcc ttttcatctt tactacagca ttgtagtggc gagacacttc 2760
 gctgtcgtcg cctgatgcgg tattttctcc ttacgcatct gtgcggtatt tcacaccgca 2820
 tacgtcaaag caaccatagt acgcgccctg tagcggcgca ttaagcggc cgggtgtggt 2880
 ggttacgcgc agcgtgaccg ctacacttgc cagcgccta gcgccgctc ctttcgttt 2940
 cttcccttc tttctgcca cgttcgccg cttccccgt caagctctaa atcgggggct 3000
 cccttaggg ttccgattta gtgtttacg gcacctcgac ccaaaaaaac ttgatttggg 3060
 tgatggttca cgtagtggc catcgccctg atagacggtt tttgccctt tgacgttga 3120
 gtccacgttc ttaatatgt gactcttgtt ccaaactgga acaacactca accctatctc 3180
 gggctattct ttgatttat aagggtttt gccgatttcg gcctattggt taaaaaatga 3240
 gctgatttaa caaaaattta acgcgaattt taacaaaata ttaacgttta caattttatg 3300
 gtgcactctc agtacaatct gctctgatgc cgcatagtta agccagcccc gacaccgcc 3360
 aacaccgct gacgcgccct gacgggcttg tctgtcccg gcatccgctt acagacaagc 3420
 tgtgaccgtc tccgggagct gcatgtgtca gaggttttca ccgtcatcac cgaaacgcgc 3480
 gagacgaaag ggcctcgtga tacgcctatt tttataggtt aatgtcatga taataatggt 3540
 ttcttagacg tcagggtggc ctttcgggg aatgtgctc ggaacccta ttgtttatt 3600
 ttctaaata cattcaaata tttatccgct catgagacaa taaccctgat aatgcttca 3660
 ataatttga aaaaggaaga gtatgagat tcaacattc cgtgtcgccc ttattccctt 3720
 ttttgcggca ttttccttc ctgttttgc tcaccagaa acgctggtga aagtaaaaga 3780
 tgctgaagat cagtgggtg cacgagtggg ttacatcgaa ctggatctca acagcggtaa 3840
 gatccttgag agtttccgc ccgaagaacg tttccaatg atgagcactt taaagtctt 3900
 gctatgtggc gcggtattat cccgtattga cgccgggcaa gagcaactcg gtcgccgat 3960

Sequence Listing

acactattct cagaatgact tggttgagtâ ctcaccagtc acagaaaagc atcttacgga 4020
 tggcatgaca gtaagagaat tatgcagtgc tgccataacc atgagtata acactgcggc 4080
 caacttactt ctgacaacga tcggaggacc gaaggagcta accgctttt tgcacaacat 4140
 gggggatcat gtaactgcc ttgatcgttg ggaaccggag ctgaatgaag ccataccaaa 4200
 cgacgagcgt gacaccacga tgcctgtagc aatggcaaca acgttgcgca aactattaac 4260
 tggcgaacta ctactctag ctccccggca acaattaata gactggatgg aggcggataa 4320
 agttgcagga ccactctgc gctcgccct tccggctggc tggtttattg ctgataaatc 4380
 tggagccggt gagcgtgggt ctgcggtat cattgcagca ctggggccag atggttaagcc 4440
 ctcccgatc gtagttatct acacgacggg gagtcaggca actatggatg aacgaaatag 4500
 acagatcgt gagatagggt cctcactgat taagcattgg taactgtcag accaagtta 4560
 ctcatatata cttagattg atttaaaact tcatttttaa tttaaaggga tctaggtgaa 4620
 gatcctttt gataatctca tgacaaaat ccctaacgt gagtttctg tccactgagc 4680
 gtcagacccc gtgaaaaga tcaaaggatc ttcttgagat ccttttttc tgcgcgtaat 4740
 ctgctgcttg caaacaaaaa aaccaccgct accagcgggt gttgtttgc cggatcaaga 4800
 gctaccaact cttttccga aggttaactg ctacagcaga gcgcagatac caaatactgt 4860
 ccttctagt tagccgtagt tagccacca ctcaagaac tctgtagcac cgcctacata 4920
 cctcgtctg ctaatcctgt taccagtggc tgctgccagt ggcgataagt cgtgtcttac 4980
 cgggttgac tcaagacgat agttaccgga taaggcgcag cggtcgggt gaacgggggg 5040
 ttcgtgcaca cagcccagct tggagcgaac gacctacac gaactgagat acctacagc 5100
 tgagctatga gaaagcgcca cgcttccga agggagaaag gcggacaggt atccggttaag 5160
 cggcagggtc ggaacaggag agcgcacgag ggagcttcca gggggaacg cctggtatct 5220
 ttatagtct gtcgggttc gccacctg acttgagcgt cgattttgt gatgctcgtc 5280
 aggggggagg agcctatgga aaaacgccag caacgcggcc ttttacggt tctggcctt 5340
 ttgctggcct ttgctcaca tgttcttcc tgcgttatcc cctgattctg tggataaccg 5400
 tattaccgcc ttgagttag ctgataccgc tcgccgagc cgaacgacc agcgcagcga 5460
 gtcagtgagc gaggaagcgg aagagcgccc aatacgcaaa ccgcctctcc ccgcgcgttg 5520
 gccgattcat taatgcag 5538